



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

**D212-664-101TRN**  
**Job Sheet 170317**



Part No: D212-664-101TRN

Job Qty: 1 ea

Part Name: Crosstube Turning Detail



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/15/18

Job Tracking No:

Due Date: 1/23/18

Created By: Mario Poulin

Type: Stock

Description:

Note: DWG REV E IPP Rev:A 08-03-06 new issue DD verified by:ec IPP Rev B 08.04.02 removed Polish EC verified by: DD

Ship Via:

### Bill of Materials

### Job Routing

| Op No | Operation          | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off |
|-------|--------------------|-------|------------|----------|-----------|---------|-----------------------|-----------|----------|
|       |                    |       |            |          | Setup hrs | Run Hrs | Workcenter / Supplier | Lead Time |          |
| 90    | Start up Operation | 1 Ea  |            | 1/22/18  | 0.00      | 0.00    | Start Up Crosstubes-1 |           | PMP      |
| 100   | Mori Seiki         | 1 pcs |            | 1/22/18  | 4.40      | 2.38    | Mori Seiki TL-40      |           | PMP      |
| 110   | QC                 | 1 pcs |            | 1/22/18  | 0.00      | 0.00    | QC2-1                 |           | PMP      |
| 120   | Mori Seiki         | 1 pcs |            | 1/22/18  | 0.00      | 2.38    | Mori Seiki TL-40      |           | PMP      |
| 130   | QC                 | 1 pcs |            | 1/22/18  | 0.00      | 0.00    | QC2-1                 |           | PMP      |
| 140   | QC                 | 1 pcs |            | 1/22/18  | 0.00      | 0.00    | QC8                   |           |          |
| 145   | Crosstubes         | 1 pcs |            | 1/22/18  | 0.00      | 0.68    | Crosstubes-1          |           |          |
| 150   | HandFXtube         | 1 pcs |            | 1/23/18  | 0.00      | 1.00    | Crosstubes-3          |           |          |
| 160   | QC                 | 1 pcs |            | 1/23/18  | 0.00      | 0.00    | QC7-1                 |           |          |
| 170   | Packaging          | 1 pcs |            | 1/23/18  | 0.00      | 0.00    | Packaging3-1          |           |          |
| 180   | QC21-SA            | 1 Ea  |            | 1/23/18  | 0.00      | 0.00    | QC21                  |           |          |

Part Op 100 - 1- Fill tube with sand & install plugs 212-141 on both ends as per Folio FA113 3- Turn first taper section on both

Descriptions: side as per folio FA113

120 - 1- Turn second taper on both side 4- Scribe part # and batch # using vibrating stylus on the cuff as per Dwg D212-664-141

145 - GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.

150 - 1- handfinish X-TUBE INSIDE AND OUT

170 - LOCATION : LG014

### Job Allocations

| Operation             | Component Part | Required | Inventory | Allocated | Std Qty |
|-----------------------|----------------|----------|-----------|-----------|---------|
| 90-Start up Operation | D6005-128      | 1        | 81        | 0         | 0       |

B123 963

### Part Specifications

Specifications could not be found.

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                             |                                                |                                                                                                                                                          |                                                          |                                                                                                                                                          |  |
|---------------------------------------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Work Order: _____                           |                                                | <b>DISPOSITION</b>                                                                                                                                       |                                                          |                                                                                                                                                          |  |
| Part No. _____                              |                                                | Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |                                                          | Skid-tube <input type="checkbox"/><br>Machining <input type="checkbox"/><br>Thermoforming <input type="checkbox"/><br>Large Fab <input type="checkbox"/> |  |
| NCR No. _____                               |                                                |                                                                                                                                                          |                                                          |                                                                                                                                                          |  |
| Date : _____                                |                                                | Step #: _____                                                                                                                                            |                                                          | QTY Effecti _____                                                                                                                                        |  |
| <b>Description Work Order Deviation</b>     |                                                |                                                                                                                                                          |                                                          |                                                                                                                                                          |  |
|                                             |                                                |                                                                                                                                                          |                                                          |                                                                                                                                                          |  |
| <b>Root Cause</b>                           |                                                |                                                                                                                                                          |                                                          |                                                                                                                                                          |  |
| Environment <input type="checkbox"/>        | No Re-verification <input type="checkbox"/>    | Pressure/Forced <input type="checkbox"/>                                                                                                                 | Temperature/Cure <input type="checkbox"/>                |                                                                                                                                                          |  |
| Design <input type="checkbox"/>             | Operator <input type="checkbox"/>              | Bending <input type="checkbox"/>                                                                                                                         | Set-up <input type="checkbox"/>                          |                                                                                                                                                          |  |
| Doc/Data <input type="checkbox"/>           | Offset/Setup <input type="checkbox"/>          | Centre Not Concentric <input type="checkbox"/>                                                                                                           | BOM/Route <input type="checkbox"/>                       |                                                                                                                                                          |  |
| Equip/Tooling <input type="checkbox"/>      | Supplier <input type="checkbox"/>              | Cracks <input type="checkbox"/>                                                                                                                          | Broken/Damage/De <input type="checkbox"/>                |                                                                                                                                                          |  |
| Handling/Pre <input type="checkbox"/>       | Training <input type="checkbox"/>              | Crimp/Kink/Ripple/Wave <input type="checkbox"/>                                                                                                          | Inspection Incomple <input type="checkbox"/>             |                                                                                                                                                          |  |
| Material <input type="checkbox"/>           | Use for Testing <input type="checkbox"/>       | Cuffs <input type="checkbox"/>                                                                                                                           | Contamination <input type="checkbox"/>                   |                                                                                                                                                          |  |
| Internal Transport <input type="checkbox"/> | Poor Information <input type="checkbox"/>      | Crushing <input type="checkbox"/>                                                                                                                        | Countersink <input type="checkbox"/>                     |                                                                                                                                                          |  |
| Tribal Knowledge <input type="checkbox"/>   | Rushing <input type="checkbox"/>               | Heat Treat <input type="checkbox"/>                                                                                                                      | Cut Too Short <input type="checkbox"/>                   |                                                                                                                                                          |  |
| LOA <input type="checkbox"/>                | Product Improvement <input type="checkbox"/>   | Wave/Twist in Tube <input type="checkbox"/>                                                                                                              | Instructions Incomplete/unclear <input type="checkbox"/> |                                                                                                                                                          |  |
| Substation <input type="checkbox"/>         | Process Improvement <input type="checkbox"/>   | Marks/Chatter <input type="checkbox"/>                                                                                                                   | Drill Holes <input type="checkbox"/>                     |                                                                                                                                                          |  |
| Past Expiry Date <input type="checkbox"/>   | Manufacturing Process <input type="checkbox"/> |                                                                                                                                                          |                                                          |                                                                                                                                                          |  |
| Misidentified <input type="checkbox"/>      | Past Due <input type="checkbox"/>              |                                                                                                                                                          |                                                          |                                                                                                                                                          |  |
| <b>OTHER :</b> _____                        |                                                |                                                                                                                                                          |                                                          |                                                                                                                                                          |  |

**PART NO: D212-664-101TRN**  
**Original Serial #: S034504**  
**Revision:**  
**Operation:**  
**Change No:**  
**Start up Operation 01/23/18**  
**Job No: 170317**

Crosstube Turning Detail



**S034504**  
**AEROSPACE**

**DART**  
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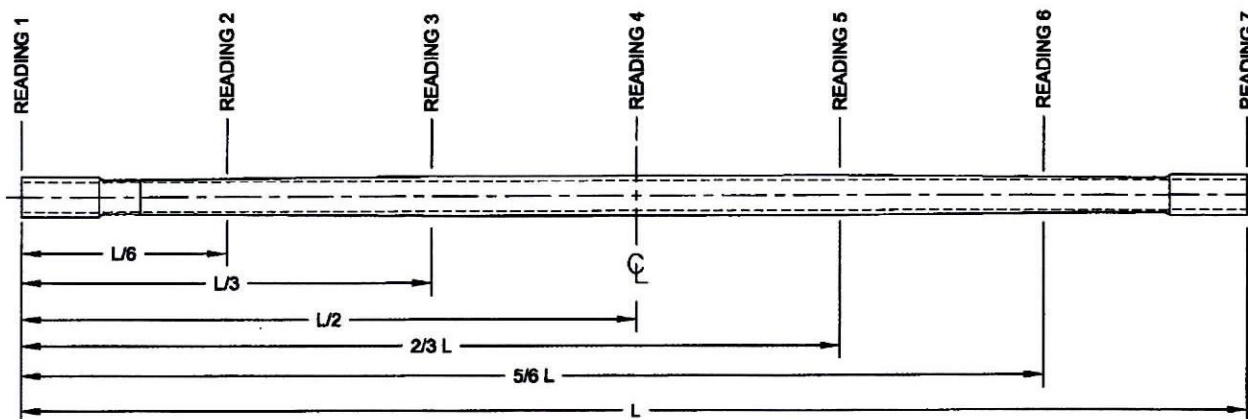
|                                                               |                     |                    |
|---------------------------------------------------------------|---------------------|--------------------|
| <b>DART AEROSPACE LTD</b>                                     | <b>Work Order:</b>  | 170317             |
| <b>Description:</b> Crosstube Assembly (205/212/412 High Fwd) | <b>Part Number:</b> | D212-664-141       |
| <b>Inspection Dwg:</b> D212-664-141 <b>Rev:</b> E             |                     | <b>Page 1 of 2</b> |

### FIRST ARTICLE INSPECTION CHECKLIST

|        | Inspection Sheet<br>Drawing Dimension | Tolerance     | Actual<br>Dimension | Accept | Reject | Method of<br>Inspection | Comments |
|--------|---------------------------------------|---------------|---------------------|--------|--------|-------------------------|----------|
| SIDE A | 0.200                                 | +/-0.010      | .201                | ✓      |        | VERN 08                 |          |
|        | R0.063                                | +/-0.010      | .063                | ✓      |        | RG                      |          |
|        | 2.740                                 | +0.005/-0.000 | 2.743               | ✓      |        | VERN 08                 |          |
|        | 5.097                                 | +/-0.030      | 5.101               | ✓      |        | "                       |          |
|        | 2.304                                 | +0.005/-0.000 | 2.308               | ✓      |        | BLM 3"-4" dia           |          |
|        | 2.340                                 | +0.005/-0.000 | 2.344               | ✓      |        | ↓                       |          |
|        | 2.398                                 | +0.005/-0.000 | 2.402               | ✓      |        |                         |          |
|        | 2.448                                 | +0.005/-0.000 | 2.452               | ✓      |        |                         |          |
|        | 2.498                                 | +0.005/-0.000 | 2.502               | ✓      |        |                         |          |
|        | 2.549                                 | +0.005/-0.000 | 2.553               | ✓      |        |                         |          |
|        | 2.599                                 | +0.005/-0.000 | 2.603               | ✓      |        |                         |          |
|        | 2.671                                 | +0.005/-0.000 | 2.675               | ✓      |        |                         |          |
|        | 2.701                                 | +0.005/-0.000 | 2.705               | ✓      |        |                         |          |
| SIDE B | 0.200                                 | +/-0.010      | .201                | ✓      |        | VERN 08                 |          |
|        | R0.063                                | +/-0.010      | .063                | ✓      |        | RG                      |          |
|        | 2.740                                 | +0.005/-0.000 | 2.743               | ✓      |        | VERN 08                 |          |
|        | 5.097                                 | +/-0.030      | 5.111               | ✓      |        | "                       |          |
|        | 2.304                                 | +0.005/-0.000 | 2.308               | ✓      |        | BLM 3"-4" dia           |          |
|        | 2.340                                 | +0.005/-0.000 | 2.344               | ✓      |        | ↓                       |          |
|        | 2.398                                 | +0.005/-0.000 | 2.402               | ✓      |        |                         |          |
|        | 2.448                                 | +0.005/-0.000 | 2.452               | ✓      |        |                         |          |
|        | 2.498                                 | +0.005/-0.000 | 2.502               | ✓      |        |                         |          |
|        | 2.549                                 | +0.005/-0.000 | 2.554               | ✓      |        |                         |          |
|        | 2.599                                 | +0.005/-0.000 | 2.604               | ✓      |        |                         |          |
|        | 2.671                                 | +0.005/-0.000 | 2.676               | ✓      |        |                         |          |
|        | 2.701                                 | +0.005/-0.000 | 2.706               | ✓      |        |                         |          |
|        | 126.514                               | +/-0.020      | 126.514             | ✓      |        | TAPE                    |          |

|                                                               |                     |                     |
|---------------------------------------------------------------|---------------------|---------------------|
| <b>DART AEROSPACE LTD</b>                                     | <b>Work Order:</b>  |                     |
| <b>Description:</b> Crosstube Assembly (205/212/412 High Fwd) | <b>Part Number:</b> | <b>D212-664-141</b> |
| <b>Inspection Dwg:</b> D212-664-141 <b>Rev:</b> E             |                     | <b>Page 2 of 2</b>  |

### WALL THICKNESS MEASUREMENT



| Location                | WALL THICKNESS MEASUREMENT (IN) |     |     |     | Deviation<br>$\Delta w$<br>(max-min) | TOLERANCE |
|-------------------------|---------------------------------|-----|-----|-----|--------------------------------------|-----------|
|                         | w1                              | w2  | w3  | w4  |                                      |           |
| READING 1<br>L= 0"      | 374                             | 385 | 382 | 374 | .011                                 | 0.048"    |
| READING 2<br>L= 21.09   | 244                             | 246 | 238 | 238 | .008                                 |           |
| READING 3<br>L= 42.17   | 353                             | 357 | 353 | 352 | .005                                 |           |
| READING 4<br>L= 63.25   | 377                             | 386 | 386 | 382 | .009                                 |           |
| READING 5<br>L= 84.34   | 344                             | 353 | 367 | 360 | .023                                 |           |
| READING 6<br>L= 105.43  | 225                             | 242 | 259 | 243 | .034                                 |           |
| READING 7<br>L= 126.514 | 370                             | 376 | 389 | 384 | .019                                 |           |

#### Calibration Result

Actual Block Thickness: 200-400

Sitiescan 250 Measured Thickness: 200-400

|                                |                               |                              |
|--------------------------------|-------------------------------|------------------------------|
| <b>Measured by:</b> <u>PMP</u> | <b>Audited by:</b> <u>JTW</u> | <b>Preliminary Approval:</b> |
| <b>Date:</b> <u>2018-01-23</u> | <b>Date:</b> <u>18-02-26</u>  | <b>Date:</b>                 |

| Rev | Date     | Change                             | Revised by | Approved |
|-----|----------|------------------------------------|------------|----------|
| C   | 07.05.28 | Dwg Rev updated (P/O D412-664-101) | KJ/JLM     |          |
| D   | 10.02.02 | Dimension 126.514 was 126.51       | KJ         |          |
| E   | 12.06.04 | Wall thickness form added          | KJ         |          |
| F   | 14.06.05 | Dwg Rev updated                    | KJ         |          |



| Item | Qty<br>-141 | Qty<br>-141B | Qty<br>-141F | Part Number     | Description                                             |
|------|-------------|--------------|--------------|-----------------|---------------------------------------------------------|
| 1    | X           |              |              | D212-664-141    | CROSSTUBE ASSEMBLY (206/212/412 HIGH FWD)               |
| 2    |             | X            |              | D212-664-141B   | CROSSTUBE ASSEMBLY (214 HIGH FWD)                       |
| 3    |             |              | X            | D212-664-141F   | CROSSTUBE ASSEMBLY (206/212/412 HIGH FWD)<br>(ANODIZED) |
| 4    | 1           | 1            | 1            | D6005-128       | CROSSTUBE                                               |
| 5    | 2           |              | 2            | D2893-1         | SUPPORT                                                 |
| 6    | 4           | 4            | 4            | D3595-063-450   | RUBBER CUSHION                                          |
| 7    |             | 2            |              | D5017-1         | SUPPORT                                                 |
| 8    | 4           | 4            | 4            | MS21920-25      | CLAMP (OR MS21920-26)                                   |
| 9    | A/R         | A/R          | A/R          | PROSEAL 890 B-2 | SEALANT, AMS-S-8802 CLASS B-2                           |

#### GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6005-128  
FINISHED LENGTH = 128.514±0.020
- 2) FINISH -141 & -141B: a) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
b) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
c) MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C6-2 / C6-3, HATCHED AREA)  
d) PAINT OUTSIDE PER DART QSI 005 4.2  
e) REMOVE MASKING AND APPLY MATTE CLEAR COAT

- FINISH -141F: a) ANODIZE PER MIL-A-8825, TYPE II, CLASS 1.  
b) ALODINE (DO NOT ETCH) PER QSI 005 4.1.2  
c) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
d) MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C6-2 / C6-3, HATCHED AREA)  
e) PAINT OUTSIDE PER DART QSI 005 4.2  
f) REMOVE MASKING AND APPLY MATTE CLEAR COAT

\*NOTE: BETWEEN FINISHING OPERATIONS EXTREME CARE MUST BE TAKEN NOT TO CONTAMINATE OR DAMAGE FINISHED SURFACES.

- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS
- 7) WEIGHT: D212-664-141/-141B/-141F = 33.6 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

#### MACHINING

- 10) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.

#### BENDING

- 11) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 7.2% (BASED ON O.D.) IN LOWER HALF OF R35.5 BEND AND 6% (BASED ON O.D.) ON REMAINING TUBE.
- 12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.

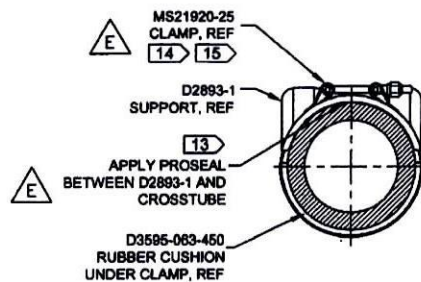
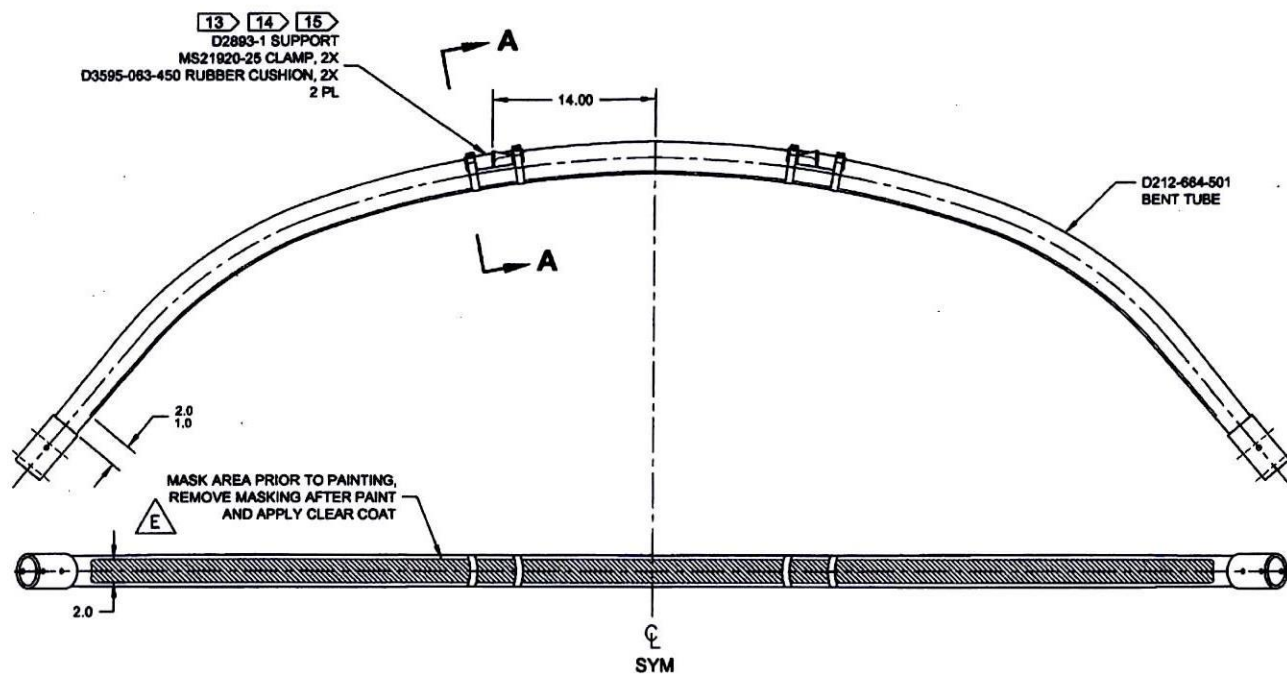
#### ASSEMBLY

- 13) TO INSTALL D2893-1 / D5017-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 14) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSSTUBE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

RELEASED  
2014-05-26  
WD

|            |                                                                                                                                                                                                                                                                                                          |    |          |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------|
| E          | ADD -141F. D5017-1 WAS D2893-1 (-141B). PROSEAL WAS MAGNOBOND, NOTE 2: ADD INSPECTION WINDOW, NOTE 11: ALLOW 7.2% CRUSH, NOTE 15: ADD 72HR CURE AND RETORQUE FOR PROSEAL, ADD SHEET 3, CLAMPS REVERSED TO PREVENT CHAFING (B7-2, B7-3), BEND HEIGHT TOL. NOW 0.25 WAS 0.13 (C1-3), INCORP. DEO D-1/-2/-3 | CP | 14.04.01 |
| D          | REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -141B (ZN B4-2, D4-2); REMOVED REF & ADD TOLERANCES (ZN B4-3, C6-3, C8-3 & B6-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4           | RF | 09.09.30 |
| C          | REMOVE -651 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS                                                                                                                                                                                                                                  | PH | 07.03.08 |
| B          | ADD HOLES FOR COMPATIBILITY WITH BHT/AA SKIDTUBES                                                                                                                                                                                                                                                        | PH | 05.02.04 |
| A          | NEW ISSUE                                                                                                                                                                                                                                                                                                | CP | 00.12.12 |
| REV.       | DESCRIPTION                                                                                                                                                                                                                                                                                              | BY | DATE     |
| DESIGN     |                                                                                                                                                                                                                                                                                                          |    |          |
| DRAWN      |                                                                                                                                                                                                                                                                                                          |    |          |
| CHECKED    |                                                                                                                                                                                                                                                                                                          |    |          |
| MFG. APPR. |                                                                                                                                                                                                                                                                                                          |    |          |
| APPROVED   |                                                                                                                                                                                                                                                                                                          |    |          |
| DE APPR.   |                                                                                                                                                                                                                                                                                                          |    |          |
| DATE       | 14.04.01                                                                                                                                                                                                                                                                                                 |    |          |

|                                                                                                                                                                                                                                                                        |                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>DART AEROSPACE LTD</b><br>HAWKESSBURY, ONTARIO, CANADA                                                                                                                                                                                                              |                        |
| DRAWING NO.<br>D212-664-141                                                                                                                                                                                                                                            | REV. E<br>SHEET 1 OF 5 |
| TITLE<br>XTUBE ASSY (206/212/412 HI FWD)                                                                                                                                                                                                                               | SCALE<br>NTS           |
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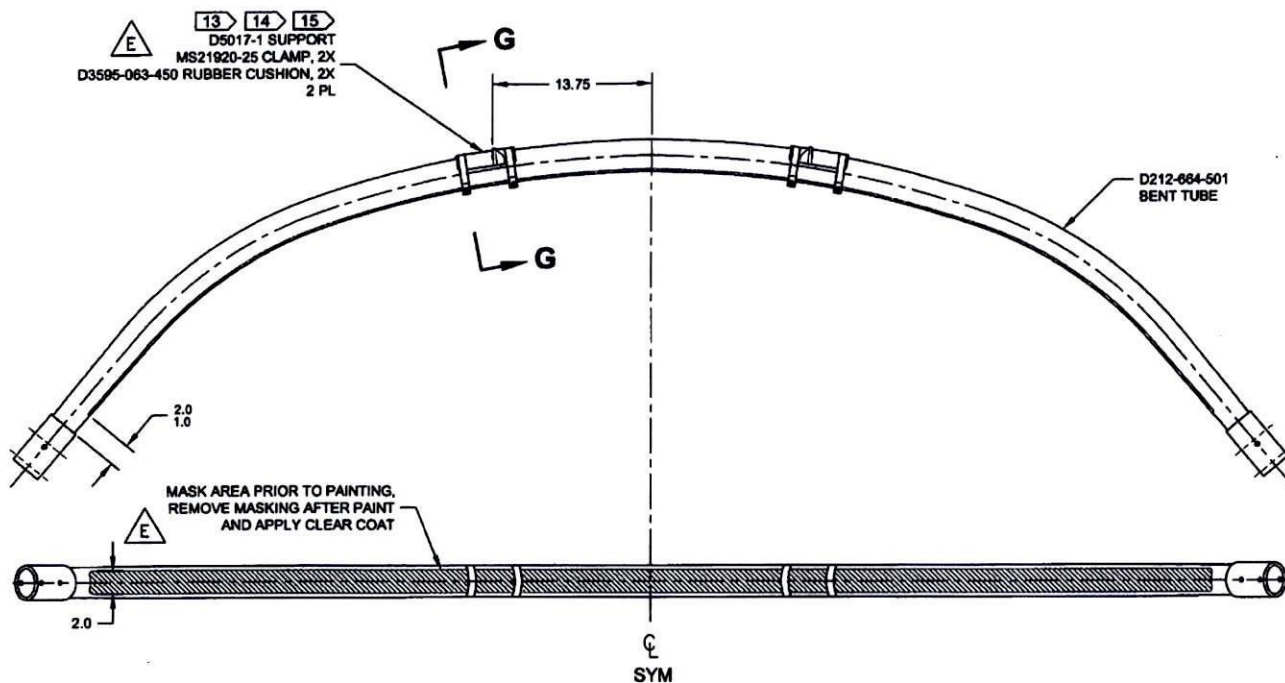


**SECTION A-A**  
SCALE 4X

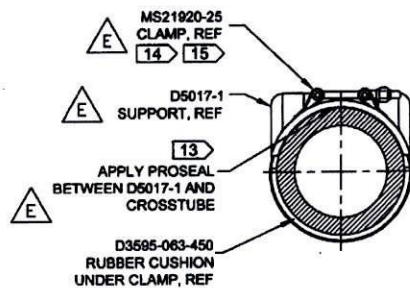
**D212-664-141/-141F**  
**ASSEMBLY DETAIL**

**RELEASED**  
2014-05-26  
AND

|            |          |                                                                                                                                                                                                                                                                                              |              |
|------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DESIGN     |          | <b>DART AEROSPACE LTD</b>                                                                                                                                                                                                                                                                    |              |
| DRAWN      |          | HAWKESSBURY, ONTARIO, CANADA                                                                                                                                                                                                                                                                 |              |
| CHECKED    |          | DRAWING NO.                                                                                                                                                                                                                                                                                  | REV. E       |
| MFG. APPR. |          | D212-664-141                                                                                                                                                                                                                                                                                 | SHEET 2 OF 6 |
| APPROVED   |          | TITLE                                                                                                                                                                                                                                                                                        | SCALE        |
| DE APPR.   |          | XTUBE ASS'Y (205/212/412 HI FWD)                                                                                                                                                                                                                                                             | NTS          |
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**D212-664-141B**  
**ASSEMBLY DETAIL**

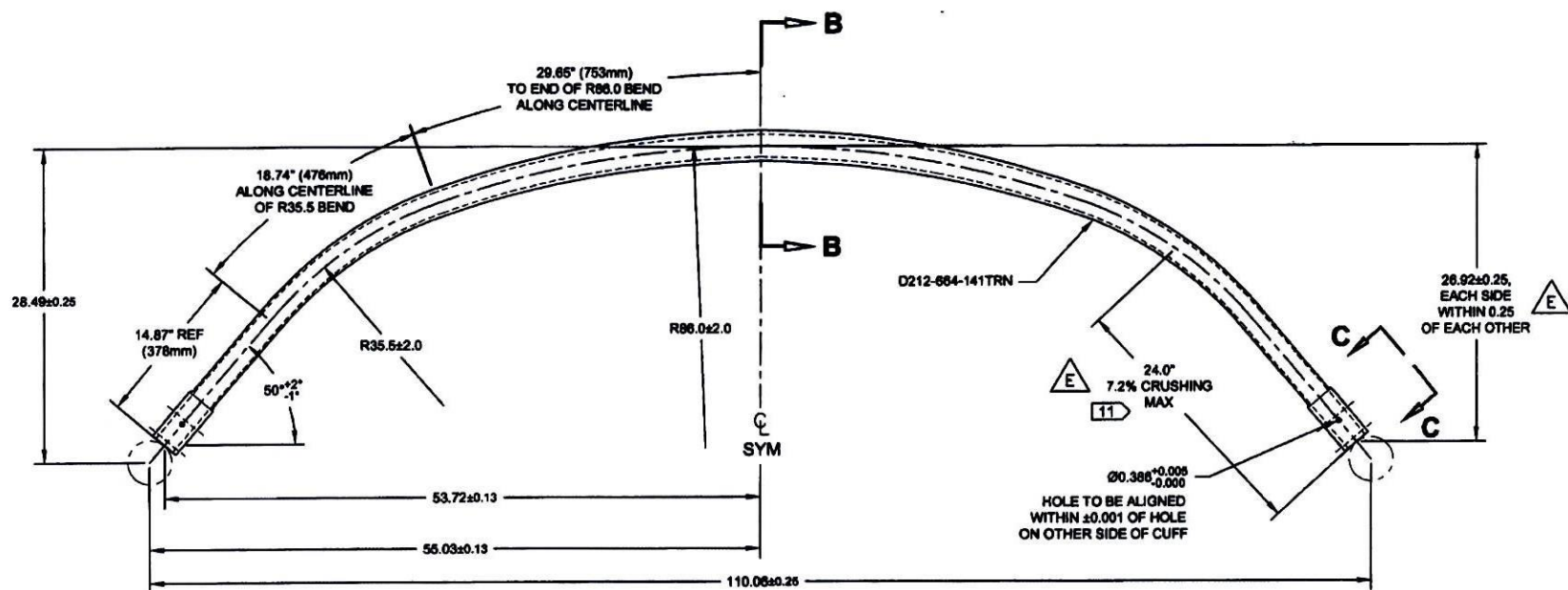


**SECTION G-G**  
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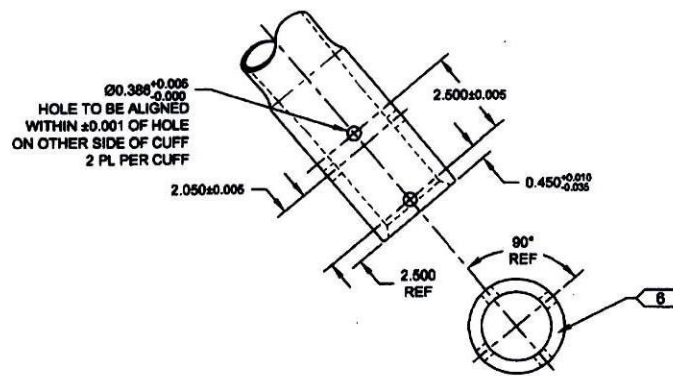
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2014-05-26

|            |                                                                                       |                                                                                                                                                                                                                                                                                  |              |
|------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DESIGN     |  | <b>DART AEROSPACE LTD</b>                                                                                                                                                                                                                                                        |              |
| DRAWN      |  | HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                                                      |              |
| CHECKED    |  | DRAWING NO.                                                                                                                                                                                                                                                                      | REV. E       |
| MFG. APPR. |  | D212-664-141                                                                                                                                                                                                                                                                     | SHEET 3 OF 5 |
| APPROVED   |  | TITLE                                                                                                                                                                                                                                                                            | SCALE        |
| DE APPR.   |  | XTUBE ASS'Y (205/212/412 HI FWD)                                                                                                                                                                                                                                                 | NTS          |
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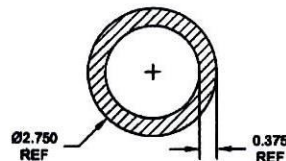




**D212-664-501**  
**BENDING AND DRILLING DETAIL** 11



**VIEW C-C: CUFF DETAIL**  
**SCALE 3X**



**SECTION B-B**  
**SCALE 4X**

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